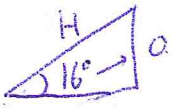
Geometry

Name_____

SOH CAH TOA



$\frac{O}{H}$

Date June 5 Period____

Find the value of each trigonometric ratio to the nearest ten-thousandth.

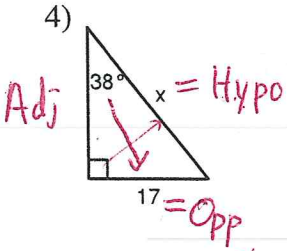
1) sin 16° = 0.276 (ratio of opposite over Hypotenuse)

2) cos 54°

3) tan 88°

Find the missing side. Round to the nearest tenth.

4)



SOH (b/c "O" is given and "H" is unknown)

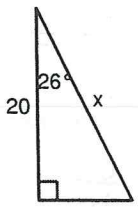
$\sin 38° = \frac{O}{H} = \frac{17}{x}$

$x \times \sin 38° = \frac{17}{\cancel{x}} \times \cancel{x}$

$\frac{x \times \sin 38°}{\sin 38°} = \frac{17}{\sin 38°}$

$x = 27.6$

5)



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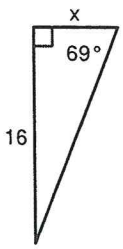

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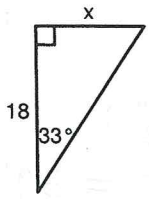

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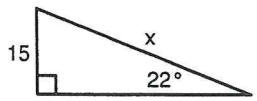

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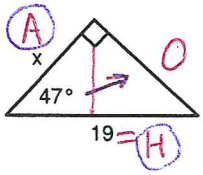


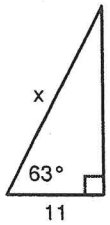
CAH = cos 47° = $\frac{A}{H}$

$\frac{\cos 47°}{1} = \frac{x}{19}$

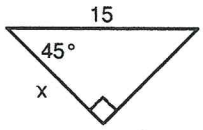
$x = 19 \times \cos 47°$

$x = 12.96$

10)

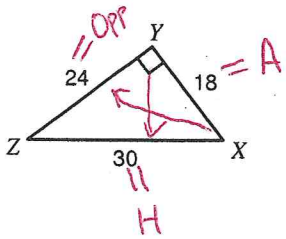


11)



Find the value of each trigonometric ratio.

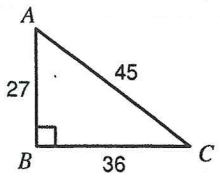
12) sin *X*



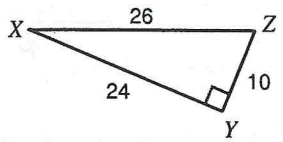
SOH: $\sin x = \frac{O}{H} = \frac{24}{30} = 0.8$ ($24 \div 3 = 8$, $30 \div 3 = 10$)

$\therefore \sin x = \frac{8}{10}$ or 0.8

13) cos A



14) tan X



Find each angle measure to the nearest degree.

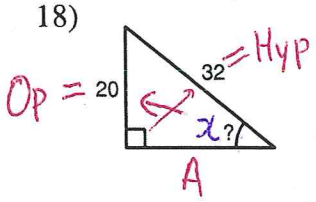
15) sin A = 0.4067

16) cos Z = 0.9272

17) $\frac{\tan W}{\tan} = \frac{0.1584}{\tan}$ $\quad W = \frac{0.1584}{\tan} = \tan^{-1} 0.1584 = 9 \quad \therefore W = 9$

Find the measure of the indicated angle to the nearest degree.

18)



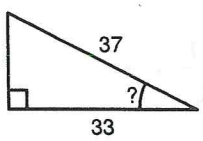
SOH: $\sin x = \frac{O}{H}$

$\frac{\sin x}{\sin} = \frac{20}{32}$ (sin)

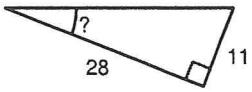
$x = \sin^{-1}\left(\frac{20}{32}\right)$

$x = 38.7° = 39°$

19)



20)



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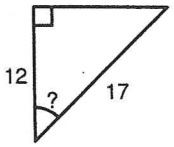

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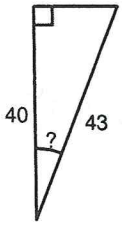

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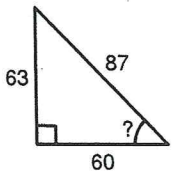

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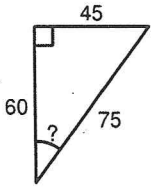

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